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<input type="checkbox"/>	L5	20000307	535
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L7: Entry 2 of 19

File: PGPB

Jul 17, 2003

DOCUMENT-IDENTIFIER: US 20030133145 A1

TITLE: SOFTWARE ARCHITECTURE FOR CABLE TELEVISION HOME PRINTING

Application Filing Date:

19990720

Detail Description Paragraph:

[0051] Applications 35 and 36 include a web browser, an e-mail program, a print driver for attached printer 12, and the like. Of particular note, these applications include the aforementioned applications from FIG. 2, namely IPP server 25, CPSI spooler 26, CPSI client 29, and STB client applications 27.

Detail Description Paragraph:

[0103] In step S1306, CHE application 22 obtains a printer driver that is appropriate for the manufacturer and model of printer 12 and for the hardware type and operating system of STB 10. CHE application 22 may obtain this printer driver from one of many sources. For example, the needed printer driver may already be stored in a memory of CHE 6 and accessible via preferences directory 21 for another subscriber on the digital cable network. In the alternative, CHE 6 may have several printer drivers available in a memory device such as a hard drive, CDROM, or the like. In another alternative, CHE application 22 may utilize internet proxy 5 to access world wide web 4 so as to obtain the necessary printer driver for STB 10, such as from the printer manufacturer's web site. Once the appropriate printer driver is found by CHE application 22, CHE application 22 then sends the printer driver to STB 10 via the digital cable network (step S1307). As mentioned previously, any of the available transport protocols for communication between CHE 6 and STB 10 may be utilized to download the printer driver from CHE 6 to STB 10. Once STB 10 receives the printer driver, STB 10 loads the printer driver in local memory for subsequent use and registers the printer driver with operating system 32 of STB 10 for future reference (step S1308).

Detail Description Paragraph:

[0104] In step S1309, CHE 6 obtains another printer driver for use by CHE 6 to send print data to STB 10. CHE 6 determines which printer driver to obtain for its own use based upon the information describing printer 12 provided by STB 10 and based upon the type of hardware and operating system which comprise CHE 6. As described above, CHE 6 may obtain the printer driver from any one of several resources, such as world wide web 4. CHE application 22 updates preferences directory 21 so as to record the new printer driver that corresponds to printer 12 for use by CHE 6 (step S1310). In this manner, CHE 6 maintains a printer driver which corresponds to printer 12 so that CHE 6 may render print data appropriately the next time print data is provided from CHE 6 to STB 10 for printing on printer 12. In addition, this feature of the present invention also provides an easy and transparent plug-and-play mechanism for the user of STB 10 to connect and utilize printer 12 to STB 10.

First Hit Fwd Refs

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L7: Entry 3 of 19

File: USPT

May 11, 2004

DOCUMENT-IDENTIFIER: US 6734986 B1

TITLE: Print control apparatus, print data generating apparatus, print control method, print data generating method, and storage medium

Application Filing Date (1):19990204Detailed Description Text (54):

The function of this embodiment may be executed by the host computer 3000 in accordance with an externally installed program. In this case, pieces of information including the program are loaded from a storage medium such as a CD-ROM, flash memory, or FD as the external memory 11 or an external storage medium through a network for e-mail, personal computer communications, or the like into a system including an output apparatus and the host computer 3000, thereby allowing the host computer 3000 or the output apparatus to implement the above function.

Detailed Description Text (98):

The function of this embodiment may be implemented by the host computer 3000 using an externally installed program. In this case, pieces of information including the program are loaded from a storage medium such as a CD-ROM, flash memory, or FD as the external memory 11 or an external storage medium through a network for e-mail, personal computer communications, or the like into a system including an output apparatus and the host computer 3000, thereby providing the above function for the host computer 3000 or the output apparatus. The present invention can be applied to such a case.

Detailed Description Text (172):

Upon reception of print request (1), the printer driver updates rectangular information to ((0, 0), (3, 3)). Upon reception of print instruction (2), the printer driver performs print processing. However, since print coordinates are present in the rectangular information that has already been stored, the rectangular information is not updated. Upon reception of print request (3), the printer driver updates the print information to ((0, 0), (300, 100)) because the print area is larger than an area containing the rectangular area. When the printer driver receives the above series of print requests, ((0, 0), (300, 100)) is stored as rectangular information.

Detailed Description Text (181):

The function of this embodiment may be implemented by the host computer using an externally installed program. In this case, pieces of information including the program are loaded from a storage medium such as a CD-ROM, flash memory, or FD or an external storage medium through a network for e-mail, personal computer communications, or the like into a system including an output apparatus and the host computer, thereby providing the above function for the host computer or the output apparatus. The present invention can be applied to such a case.

First Hit Fwd Refs☐ **Generate Collection**

L7: Entry 4 of 19

File: USPT

Feb 10, 2004

DOCUMENT-IDENTIFIER: US 6690481 B1

TITLE: Internet-based push printing over cable network

Application Filing Date (1):19990720Detailed Description Text (24):

Applications 35 and 36 include a web browser, an e-mail program, a print driver for attached printer 12, and the like. Of particular note, these applications include the aforementioned applications from FIG. 2, namely IPP server 25, CPSI spooler 26, CPSI client 29, and STB client applications 27.

Detailed Description Text (75):

In step S1306, CHE application 22 obtains a printer driver that is appropriate for the manufacturer and model of printer 12 and for the hardware type and operating system of STB 10. CHE application 22 may obtain this printer driver from one of many sources. For example, the needed printer driver may already be stored in a memory of CHE 6 and accessible via preferences directory 21 for another subscriber on the digital cable network. In the alternative, CHE 6 may have several printer drivers available in a memory device such as a hard drive, CDROM, or the like. In another alternative, CHE application 22 may utilize internet proxy 5 to access world wide web 4 so as to obtain the necessary printer driver for STB 10, such as from the printer manufacturer's web site. Once the appropriate printer driver is found by CHE application 22, CHE application 22 then sends the printer driver to STB 10 via the digital cable network (step S1307). As mentioned previously, any of the available transport protocols for communication between CHE 6 and STB 10 may be utilized to download the printer driver from CHE 6 to STB 10. Once STB 10 receives the printer driver, STB 10 loads the printer driver in local memory for subsequent use and registers the printer driver with operating system 32 of STB 10 for future reference (step S1308).

Detailed Description Text (76):

In step S1309, CHE 6 obtains another printer driver for use by CHE 6 to send print data to STB 10. CHE 6 determines which printer driver to obtain for its own use based upon the information describing printer 12 provided by STB 10 and based upon the type of hardware and operating system which comprise CHE 6. As described above, CHE 6 may obtain the printer driver from any one of several resources, such as world wide web 4. CHE application 22 updates preferences directory 21 so as to record the new printer driver that corresponds to printer 12 for use by CHE 6 (step S1310). In this manner, CHE 6 maintains a printer driver which corresponds to printer 12 so that CHE 6 may render print data appropriately the next time print data is provided from CHE 6 to STB 10 for printing on printer 12. In addition, this feature of the present invention also provides an easy and transparent plug-and-play mechanism for the user of STB 10 to connect and utilize printer 12 to STB 10.

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L7: Entry 5 of 19

File: USPT

Dec 30, 2003

DOCUMENT-IDENTIFIER: US 6671063 B1
TITLE: Network facsimile apparatus

Application Filing Date (1):
19990630

Brief Summary Text (3):
The present invention relates to a network facsimile apparatus capable of performing transmission and reception of facsimile data and e-mail data connecting to a PSTN and a network such as the internet or LAN.

Brief Summary Text (5):
Recently, a method of reusing facsimile received data by combining an internet FAX and a WWW server has been proposed. The method utilizes the function of the internet FAX which converts data received from the PSTN into an e-mail.

Brief Summary Text (7):
Image data received at internet FAX 1101 via the PSTN is converted into an attached file format to an e-mail at internet FAX 1101 and is transmitted to WWW server 1103 as an attached file of e-mail.

Brief Summary Text (8):
The e-mail with the attached file transferred from internet FAX 1101 is received at e-mail server 1102 via a network. The e-mail with the attached file received at e-mail server 1102 is transferred to WWW server 1103 that is a destination again via the network.

Brief Summary Text (9):
WWW server 1103 stores the attached file of e-mail as image data to link to a homepage for facsimile reception. The storage of facsimile received data is finished at this point.

Brief Summary Text (11):
As described above, internet FAX 1101 has a facsimile communication function, an e-mail communication function, a format converting function for converting a format mutually between facsimile and e-mail. Internet FAX 1101 also has a scanning function and a printing function to function alone as a facsimile apparatus. Accordingly, client machine 1104 is able to use internet FAX 1101 as a relay apparatus when transmits an e-mail to internet FAX 1101, and also use internet FAX 1101 as a network printer.

Brief Summary Text (12):
However, there is a problem on the workability in the above system because a user has to start up e-mail software at a client machine to attach a word-processor-document to an e-mail when transmits the word-processor-document generated at the client machine to another terminal through the internet FAX or prints the word-processor-document at the internet FAX.

Brief Summary Text (14):
An object of the present invention is to provide a communication system for

enabling a user to directly transmit or print a word-processor-document generated at a client machine only by providing an instruction of printing or transmission to a printer driver at the client machine without converting the word-processor-document opened at the client machine into an e-mail.

Brief Summary Text (17):

In addition, when a printer driver for the network facsimile apparatus receives a printing instruction of a document opened at a terminal, the printer driver transfers the printing instruction and the document to the network facsimile apparatus and prints the document which is instructed to print using the printing function. According to the aforementioned processing, it is possible to transmit document opened at the terminal to the network facsimile apparatus to print, thus enabling the network facsimile apparatus to be used as a network printer.

Brief Summary Text (18):

In addition, the network facsimile apparatus has a storage for storing a document, another storage in which a bulletin board including a document list of stored documents is stored in structured document format, and a web server for enabling the bulletin board to be browsed. When the printer driver for the network facsimile apparatus receives a registration instruction of a document opened at the terminal, the printer driver transfers the registration instruction and the document to the network facsimile apparatus. The network facsimile stores the document which is instructed to register in the storage, while registers the document name to the document list of the bulletin board. A user is thereby able to directly transmit the document at the terminal to the network facsimile apparatus only by operating the almost same procedure as printing. Since the bulletin board is constructed in structured document, it is possible to browse the bulletin board at the user terminal where the document is generated by accessing to the network facsimile with URL and providing a file request to a web server.

Brief Summary Text (20):

In addition, the selection page has a box adapted to enter a facsimile number and e-mail address corresponding to a transmission instruction. According to the aforementioned feature, it is possible to enter destination information in the same page as selecting the instruction item, improving the workability.

Detailed Description Text (5):

The network facsimile apparatus performs scanning of image data of, for example, document by scanner 5, and performs printing of scanned imaged and received image data at printer 6. A user is able to perform operations such as an instruction to scan image data and an enter of destination address using panel section 7. Compression/expansion section 8 performs expansion of received image data and compression of scanned image data. FAX/speech communication section 9 performs facsimile communication and speech communication connecting to a PSTN. Network control section 10 performs a control over data communication including e-mail connecting to a network.

Detailed Description Text (6):

The programs stored in ROM 2 include each program for HTML file generating section 11, WWW server section 12, e-mail communication section 13 and TIFF conversion section 14. Although each function of HTML file generating section 11, WWW server section 12, e-mail communication section 13 and TIFF conversion section 14 is provided under the respective program executed by CPU 1, the respective function will be described using respective numeral symbol provided to the respective program as illustrated in FIG. 2 as a matter of accommodation.

Detailed Description Text (7):

HTML file generating section 11 is a function block that converts lists of image data received by facsimile and e-mail and other data into HTML files readable on a homepage to register to a server.

Detailed Description Text (9):

E-mail communication section 13 performs transmission and reception of e-mail via a network, while functions as an e-mail server. In addition, TIFF conversion section 14 provides a function of converting coded facsimile data and document file data into TIFF format. In the case of transmitting facsimile data by e-mail, TIFF conversion section 14 converts the facsimile data into TIFF format and generates an e-mail which contains the TIFF file as an attached file. In other words, the TIFF file is text-coded, and provided to a data section for an e-mail with attached file conforming to, for example, MIME. On the contrary, in the case of transmitting data received by e-mail by facsimile, an e-mail in text code is subjected to binary conversion and further converted into a TIFF file. TIFF conversion section 14 opens the TIFF file. When the file is a non-compressed, compression/expansion section 8 provides compression processing such as MH, and then the resultant data is transmitted.

Detailed Description Text (11):

FIG. 4 illustrates a function block diagram for HTML file generating section 11, WWW server section 12, e-mail communication section 13, TIFF conversion section 14, network daemon 15 and printer 6, and a flow of data processing between the blocks.

Detailed Description Text (16):

Document list generating section 37 generates a HTML file of reception list indicative of received e-mail and received FAX and performs a delete, edit and move of a part of the HTML file according to an instruction provided from CGI application 34 and received data.

Detailed Description Text (18):

In addition, HTML file generating section 11 has communication result list generating section 39 and status information generating section 41. Communication result list generating section 39 receives log information indicative of communication result from FAX/speech communication section 9 and e-mail communication section 13 to generate and update the HTML file indicative of the communication result list. Status information generating section 41 fetches status signals indicative of respective status from scanner 5, printer 6, panel section 7 and FAX/speech communication section 9 (for example, eruption of paper stack, lack of toner and on-communication) to generate and update a HTML file in which the respective statuses are registered.

Detailed Description Text (20):

E-mail communication section 13 receives an instruction of transmission processing, transmission document number, an e-mail address of a destination terminal from a send CGI application. When the transmission document number is provided, e-mail communication section 13 fetches transmission data of the corresponding document number from external storage 4, inputs the image data to a transmission buffer, and transmits the data to the e-mail address of the destination terminal connecting to a network such as the internet by a LAN or dial up. In the case of simultaneous transmission, a plurality of e-mail addresses are spooled from the send CGI application as simultaneous transmission destinations. A transmission instruction, an e-mail address, and a document number are provided from network printer daemon 15. E-mail communication section 13 fetches data corresponding to the document number from external storage 4, and attaches the data to an e-mail to transmit to a designated e-mail address.

Detailed Description Text (21):

Network printer daemon 15 is one of functions included in network control section 10, and has communication control section 16 and storage processing section 17. Communication control section 16 waits for a request from a printer driver and receives a printing request, transmission request and registration request. Network printer daemon 15 transfers data to printer 6 in the case of printing request,

provides data to FAX/speech communication section 9 or e-mail communication section 13 in the case of transmission request, and provides data to storage processing section 17 to store in external storage 4 in the case of registration request.

Detailed Description Text (22):

Printer 6 has spooler 18 for spooling a printing request and printing data and printing processing section 19 for executing printing processing. Printing processing is spooled from Network printer daemon 15, FAX/speech communication section 9 and e-mail communication section 13 to spooler 18.

Detailed Description Text (26):

When printer 2 is selected and determine-button 52 is selected, the printer driver for using the network facsimile apparatus as a printer is started. This printer driver displays a selection page in order to enable the user to select either processing of "printing" or "transmission" (ST405). FIG. 7 illustrates a structure example of the selection page. As illustrated in FIG. 7, the selection page has check box 61 used to instruct processing for printing and check box 62 used to request processing for transmission. The selection page further has box 63 used to enter a FAX number of a transmission destination and box 64 used to enter an e-mail address of a transmission destination. In the case where the users checks transmission check box 62, the user enters a FAX number in box 63 when a destination is a facsimile apparatus, and enters an e-mail address in box 64 when a destination is an e-mail apparatus. When determine-button 65 is pushed, the instruction of transmission/printing is confirmed and the destination is further confirmed in the case of transmission.

Detailed Description Text (28):

In the case of the transmission instruction, a transmission header to which the transmission instruction and a destination number (FAX number or e-mail address) is generated (ST408).

Detailed Description Text (35):

On the other hand, when the decision at ST704 is a transmission instruction, it is decided whether the instruction is facsimile transmission or e-mail transmission.

Detailed Description Text (36):

When a facsimile number is entered in enter box 63 on the selection page, the facsimile number contained in the transmission header is detected (ST707). In addition, an e-mail address is entered in enter box 64 on the selection page, the e-mail contained in the transmission header is detected (ST707). When the facsimile number is detected at ST707, communication control section 16 notifies FAX/speech communication section 9 of a document number and a facsimile number of the document to be transmitted to instruct the transmission (ST708). FAX/speech communication section 9 requests the document corresponding to the document number to file management section 36 to fetch, and dials to the facsimile number inserted in the header so as to transmit the document after the line is established (ST709). Since a document stored in external storage 4 is coded from bitmap image in accordance with facsimile communication, it is possible to transmit the document by facsimile without any conversion.

Detailed Description Text (37):

In addition, it is decided whether to transmit by e-mail immediately after a facsimile number is not detected at ST707 or after FAX transmission is performed when the facsimile number is detected (ST710). when an e-mail address is detected in the transmission header, processing is executed to transmit a document received from a client by e-mail. In other words, communication control section 16 at network printer daemon 15 provides a document number and an e-mail address to e-mail communication section 13 to instruct the transmission (ST711). E-mail communication section 13 request a document corresponding to the notified document number to file management section 36 to fetch. A document is in TIFF format but

binary data in accordance with facsimile communication. Therefore, the document is converted into character code in accordance with SMTP (ST712). The notified e-mail address is set at an e-mail header of e-mail, and the document (TIFF file) is attached to the e-mail then transmitted by e-mail (ST713).

Detailed Description Text (38):

As described above, when the network facsimile apparatus receives a transmission instruction from the terminal (202) connected to the network facsimile apparatus via a network, it is possible to transmit a document using the network facsimile apparatus as a relay apparatus without converting the document into an e-mail at client machine 202.

Detailed Description Text (39):

In addition, the flowchart in FIG. 8 illustrates the case of storing the printed document in external storage 4, however it may be possible to enable a user to select printing only or storing only. Device setting of the facsimile apparatus is performed using a device setting CGI application at WWW server section 12. Client machine 202 starts the device setting CGI application, and registers either of (a) print, (b) storing only, or (c) printing and storing to a setting table. A setting file containing the setting table is stored in external storage 4. When a document is fetched from external storage 4, FAX/speech communication section 9 and e-mail communication section 13 confirm the setting content of the setting table described above. According to the aforementioned processing, it is possible to select either of printing only, storing only or printing and storing.

Detailed Description Text (42):

In the flowchart in FIG. 5, a document is transferred to the network facsimile apparatus by a printing instruction or transmission instruction. However, it may be possible to enable the printer driver to transfer a document only for the registration to the bulletin board. In this case, a check box of "bulletin board registration" is provided on the selection page in FIG. 7, the printer driver for the network facsimile detects the check, and provides a document provided with transmission head to which "bulletin board registration instruction" is inserted to network facsimile daemon 15. When network printer daemon 15 detects "bulletin board registration instruction" from the transmission header, network printer daemon 15 stores the data in external storage 4 while notifies document list generating section 37 of the document number.

CLAIMS:

1. A network facsimile apparatus connected to a telephone network and to a computer network, a client machine being connected to the network facsimile apparatus via the computer network, the network facsimile apparatus comprising: a data communicator that receives bitmap image data transmitted by the client machine via the computer network, the received bitmap image data including a transmission header that includes instruction data; an analyzer that analyzes the instruction data in the transmission header of the received bitmap image data and determines an indication of at least one of a printing, a facsimile transmission, and an e-mail transmission; a converter that converts the bitmap image data into a TIFF file; a facsimile transmitter that converts the TIFF file into facsimile data, and transmits the converted facsimile data to a facsimile destination terminal when said analyzer determines that the instruction data indicates facsimile transmission, a facsimile number of the facsimile destination terminal being included in the transmission header; said data communicator transmitting the TIFF file to an e-mail destination terminal when said analyzer determines that the instruction data indicates an e-mail transmission, an e-mail address of the e-mail destination terminal being included in the transmission header; and a printer that prints the TIFF file when said analyzer determines that the instruction data indicates printing.

5. The network facsimile apparatus according to claim 1, wherein, when said data communicator receives the transmission header including a facsimile number and an e-mail address, the received bitmap image data is transmitted to a facsimile destination terminal by said facsimile transmitter and is transmitted to an e-mail destination terminal by said data communicator in a single communication operation.

6. A method of transmitting data by a network facsimile apparatus that is connected to a telephone network and to a computer network, a client machine being connected to the network facsimile apparatus via the computer network, the method of transmitting data comprising: receiving bitmap image data transmitted by the client machine via the computer network, the bitmap image data including a transmission header that includes instruction data; analyzing the instruction data in the transmission header and determining an indication of at least one of printing, facsimile transmission and e-mail transmission; converting the bitmap image data into a TIFF file; converting the TIFF file into facsimile data and transmitting the converted facsimile data to a facsimile destination terminal when the analyzing determines that the instruction data of the transmission header indicates facsimile transmission, a facsimile number of the facsimile destination terminal being included in the transmission header; transmitting the TIFF file to an e-mail destination terminal when the analyzing determines that the instruction data of the transmission header indicates e-mail transmission, an e-mail address of the e-mail destination terminal being included in the transmission header; and printing the TIFF file when the analyzing determines that the instruction data of the transmission header indicates printing.

10. The apparatus according to claim 6, wherein when the received transmission header includes a facsimile number and an e-mail address, the received bitmap image data is transmitted to a facsimile destination terminal and to an e-mail destination terminal in a single communication operation.

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L7: Entry 9 of 19

File: USPT

Sep 2, 2003

DOCUMENT-IDENTIFIER: US 6614548 B1

TITLE: Apparatus and method of performing a facsimile transmission through local area network

Application Filing Date (1):19981020Detailed Description Text (6):

Each of the DMs 101 and 111 has an individual domain identification. Each of the DMs 101 and 111, the network facsimile apparatus 100, each of the CLs 103, and the SV 104 is given an individual network address, usually based on its individual address information coupled with the corresponding domain identification. A user who uses a client terminal in the DM 101 is provided with an individual user address which is usually based on the user's individual name coupled with the above-mentioned individual network address of the client terminal. Such an individual user address that is generally made of alphanumeric symbols including alphabetical characters is referred to as an electronic mail (E-mail) address. Using these network addresses and E-mail addresses, communications are carried out between terminals including the CLs 103 and the network facsimile apparatus 100 within a domain and between domains through the Internet 130.

Detailed Description Text (7):

The network facsimile apparatus 100 has various functions related to electronic mail (E-mail), including an E-mail function for sending and receiving E-mail containing image information to and from other terminal machines through the LAN 102. The network facsimile apparatus 100 also has general facsimile functions including a Group 3 facsimile communications capability for transmitting and receiving facsimile image information to and from destination facsimile machines through the PSTN 120. Furthermore, the network facsimile apparatus 100 has a server function for providing services in connection with a modem function thereof to the CLs 103 connected to the LAN 102

Detailed Description Text (8):

Generally, a so-called protocol suite is applied for communications between machines connected to local area networks and via the Internet. In an operation of the protocol suite, a communication protocol, such as TCP/IP (transmission control protocol/Internet protocol) and another communication protocol are used in combination for up to a transport layer of an OSI (open systems interconnection), and for the layers higher than the transport layer, respectively. For example, an SMTP (simple mail transfer protocol) is used as a higher layer protocol for communications such as E-mail.

Detailed Description Text (9):

In each of the DMs 101 and 111, the LAN 102 employs a mail server system in which an incoming E-mail is first stored in the SV 104 and then sent to a destination client terminal. More specifically, when E-mail information reaches a domain, for example DM 101, the file server 104 checks a destination mail address attached to the E-mail and if the destination mail address is for a client terminal of that domain the mail server system of the domain stores the E-mail into the SV 104. When the E-mail has a destination mail address other than one controlled by the domain,

the mail server system of the domain transmits the E-mail to the Internet 130 via the RT 105 and the E-mail is sent to another domain, e.g. the DM 111, to seek the destination terminal machine, or to a host machine that has an address corresponding to the destination mail address attached to the E-mail, through a data transmission function of the Internet 130.

Detailed Description Text (10):

In the above-described server system, at a certain interval the network facsimile apparatus 100 and the CLs 103 in each domain, e.g., DMs 101 and 111, request the SV 104 to check if an incoming E-mail addressed for a user of the requesting machine is stored therein. If an E-mail addressed to the user of the requesting machine is stored in the SV 104, the mail server system transmits the E-mail to the requesting machine. Upon receiving the E-mail, the requesting machine indicates to the user that there is an incoming E-mail. In the example being described, the network facsimile apparatus 100 has an E-mail address to exchange E-mails as described above. The protocol is a POP(post office protocol), for example, to be applied for, the communications from the CLs 103 and the network facsimile apparatus 100 to the SV 104 to request the incoming check as described above.

Detailed Description Text (11):

In the example being described, each of the CLs 103 has various application software programs including programs that are usually used by one or more individual users on an exclusive basis. One exemplary program performs the Group 3 facsimile communications procedure to communicate with the network facsimile apparatus 100, for example, through the LAN 102. Another exemplary program exchanges various data such as E-mail with other terminals through the LAN 102. A further exemplary program processes facsimile image information included in E-mail that is sent from the network facsimile 100. That is, when a user sees an indication of an E-mail arrival, the user may open the E-mail to check the contents. If the contents include binary data such as facsimile image information, the user can initiate a program that can handle the binary data in an appropriate manner so as to see the contents. Typically to review the binary data in E-mail, the data is first transferred into a different data format such as a MIME (multi-purpose Internet mail extensions).

Detailed Description Text (12):

The above-mentioned communication protocols, such as the TCP/IP, SMTP, and POP, as well as the data format and structure of the E-mail, including the MIME, are defined in an RFC (request for comments) published by an IETF (Internet engineering task force). For example, the TCP and IP are defined in an RFC793, the SMTP in an RFC821, and the data format and structure of the E-mail in an RFC822, RFC1521, RFC1522, and RFC1468.

Detailed Description Text (39):

In Step S105, the serial port driver 54 receives the modem command for requesting a transfer call to the specific facsimile machine connected to the PSTN 120. The serial port driver 54 then draws the telephone number of that specific facsimile machine from the received modem command and stores the telephone number in Step S106, and subsequently sends a responsive signal corresponding to the modem command back to the facsimile application manager 51 in Step S107.

Detailed Description Text (59):

In Step S305, the serial port driver 254 receives the modem command for requesting a transfer call to the specific facsimile machine connected to the PSTN 120. The serial port driver 254 then draws the telephone number of that specific facsimile machine from the received modem command and stores the telephone number in Step S306. Subsequently, in Step S307, the serial port driver 54 sends the request for establishing a line connection to the network facsimile apparatus 100, via the LAN interface 26 of the LC 103 and the LAN 102, in order to request a transmission of image information to the specific facsimile machine having that telephone number.

Detailed Description Text (108):

If the delay time $T_{sub.d}$ is greater than the predetermined allowable delay time X and the determination result of Step S711 is NO, the process proceeds to Step S717 of FIG. 19(B) in which the serial port driver 354 sends the network disconnection instruction to the network facsimile apparatus 100. In Step S718, the serial port driver 354 receives the modem command for requesting a transfer call to the specific facsimile machine connected to the PSTN 120. The serial port driver 354 then draws the telephone number of that specific facsimile machine from the received modem command and stores the telephone number in Step S719, and subsequently sends the responsive signal corresponding to the modem command back to the facsimile application manager 51 in Step S720.

Detailed Description Text (138):

In this case, the serial port driver 454 sends a substitutionally responsive signal corresponding to the modem command to the facsimile application manager 51, as the responsive signal from the network facsimile apparatus 100 is delayed. Then, the serial port driver 454 sends the network disconnection instruction to the network facsimile apparatus 100. In response to the instruction from the serial port driver 454, the network facsimile apparatus 100 disconnects the communications line. Then, the facsimile application manager 51 sends the modem command for requesting a transfer call to the serial port driver 454. The serial port driver 454 responds to the facsimile application manager 51 by sending the responsive signal back to the facsimile application manager 51.

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L7: Entry 10 of 19

File: USPT

May 13, 2003

DOCUMENT-IDENTIFIER: US 6564193 B1

TITLE: System for, and method of, using the internet system to provide for the transmission of a facsimile message

Application Filing Date (1):19990114Detailed Description Text (14):

The menu 80 shown in FIG. 25 may include a box 82 designated as "About Us". When this box is pressed, background information concerning the service provider is provided. When a box designated as "Services" is pressed as at 84, information concerning services (e.g. fax for free and fax for fee) offered by the service provider at the web site 16 is provided. A pressure against a box 86 designated as "Policies" provides an indication of the rules or policies adopted by the service provider in conducting its business of sending facsimiles to a designated recipient. Actuation of a button 88 designated as "Testimonials" causes testimonials to be provided from prior users who have been pleased with the facsimile services provided by the service provider at the web site 16. Depression of a "download fax 4 free" button 90 may cause information concerning the transmission of a facsimile on a free basis to be provided. This allows for a free downloading of the printer driver software to run the desk top computer. A "CONTACT US" button 92 may be depressed to contact the service provider with questions. If the member has used the service provider's services within a particular period of time such as thirty (30) days, the depression of a button 94 designated as "Register" may cause the customer or user to be immediately registered.

Detailed Description Text (18):

If the information at 110 is not correct, the customer is directed to the menu as at 111 in FIG. 5. If the information at 110 is correct and complete and a decision is made by the customer to send the facsimile to the recipient, the facsimile is sent to the recipient as indicated at 112. The service provider then thanks the customer through the Internet system as at 114 and provides as at 124 information to the customer about what happened to the facsimile. The web site then determines as at 116 whether this is the end of the facsimile message or there are additional pages to the facsimile. If this is the last page of the facsimile message, the end of the message is indicated at 118. If there is at least another page to the facsimile message, an indication is provided at 120 to return to the block 110 so that at least an additional page of the facsimile message is sent. This continues until the last page of the facsimile message has been sent to the recipient. The E-mail response for the facsimile pages to be sent is indicated at 124 in FIG. 5. It constitutes information to the customer about what happened to the facsimile.

Detailed Description Text (25):

FIGS. 11-17 are flow charts showing further details in sending a facsimile document or facsimile documents from the desk top 18 in FIG. 1. FIG. 11 includes the desk top 18. As indicated at 171 in FIG. 11, no fax 4 free printer-driver functionality is downloaded when the printer-driver in the desk top does not download the fax 4 free protocol from the web site 16. As indicated at 172, the printer-driver in the desk top downloads the fax 4 free protocol from the web site 16. The desk top then provides a fax for free printer driver functionality. This is indicated at 174 in

FIG. 11 This functionality may include such information as a cover sheet, the letterhead format of the customer, the name(s) and address(es) of the customer and recipient(s) and the subject matter of the facsimile. All of this functional information is provided at a terminal 7C at the right end of FIG. 11.

Detailed Description Text (30):

If the identification is O.K. (see 200), a fee may be indicated at 202. The message is then shown as being passed to a terminal 6C at the right end of FIG. 15 and the left end of FIG. 17. The account balance of the customer or user is then checked as at 204 to verify that the customer has a sufficient balance to pay for the cost of sending the facsimile message. When the account balance is sufficient, an indication is provided as at 206 that it is O.K. to send the facsimile message. The message is then sent by the individual one of the fax servers 24a-24e as indicated at 208. This is reported by E-mail to the customer or user as indicated at 210 in FIG. 18. A note of thanks for the customer's business is also provided at 211 in FIG. 17.

Detailed Description Text (31):

When the facsimile is to be sent for free, the individual one of the web servers 20a 20c pulls an image of an advertisement from an ad engine in the web server 16. The ad engine stores a plurality of the advertisements. The pulling of the advertisement from the ad engine is indicated at 212 in FIG. 15. This image is added to the facsimile message to form a composite message and the composite message is sent to the recipient. This is indicated at 214 in FIG. 16. A thank you page is provided as at 216 and an E-mail report is provided as at 218 to the customer or user concerning the successful transmission of the facsimile message to the recipient.

Detailed Description Text (34):

As indicated at 232 in FIG. 21, the individual one of the fax servers 24a-24e pulls an appropriate one of the image builders (the advertisement) from the ad engine which stores the advertisements available for use. The fax server then sends the facsimile message and the advertisement (appropriately placed on the document providing the facsimile message) to the recipient(s). This is indicated at 234 in FIG. 21. The fax server then provides a thank you message (see 236) and an E-mail report (see 238) to the customer or user.

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L7: Entry 16 of 19

File: USPT

Nov 21, 2000

DOCUMENT-IDENTIFIER: US 6151643 A

TITLE: Automatic updating of diverse software products on multiple client computer systems by downloading scanning application to client computer and generating software list on client computer

Application Filing Date (1):
19960607

Brief Summary Text (10):

Finally, many users have concerns about their privacy, and are often resistant to revealing complete information about their software configurations to one or more vendors. However, even for a single vendor, information about which of the vendor's products are installed on a user's computer system, and system configuration information is necessary for determining which updates are applicable to the user's computer system. For example, a certain software update to an accounting program from vendor A might be applicable if the user has a printer from vendor B, and a different software update is applicable if the printer comes from vendor C. The user might not want to let each vendor know about all the components on their system, but this configuration information is necessary to ensure the correct software updated is installed. Still, users are resistant to the prospect of a single vendor storing information profiling the software components that reside on their computer systems.

Brief Summary Text (26):

In yet another aspect of the present invention, information about software updates or software products may be provided by the service provider to a client computer by email, upon request for email notification by a user. Users who subscribe to the service provider's service indicate the software products in which they are interested, either directly, or indirectly by their actions in using the service. As new software updates, or software products become available, the service providers determines which one match a particular user's interests, and notifies the user of such updates or products by email. The notification includes the network location of where the software product or software update is available. The user can then approve the installation of the product or update, and use the client application to download and install the software update or product.

Detailed Description Text (10):

In each case, the user logs in 201 to the service provider computer 102 with the client application 104 in a conventional manner, providing a user ID, a password, and the like. This information may be manually entered by the user via the client application 104, or more preferably, stored within the client application 104, and automatically provided once a connection between the client computer 101 and service provider computer 102 is established. If the user is not registered, then the service provider computer 102 in conjunction with inputs by the user, registers 202 the new user of the system. FIG. 3 illustrates a basic user interface 300 for registering the user. The user identifies himself or herself by name 301 and selects a password 303. The user may also provide a mailing address 305 and a payment mechanism such as a credit card data 311, including a credit card number and expiration date, to pay for the services and for any for-fee software updates that the user may access in the course of using the service provided by the service

provider computer 102. An email address 307 is entered to allow the service provider to contact the user by email. The user may select check box 309 to indicate that they want to be notified by email when new software updates are available for software products installed on their computer. When the registration process 202 is completed, the service provider computer 102 returns a unique registration number to the user. This number may be stored on the client computer 101 and used during subsequent logins to identify the user to the service provider computer 102.

Detailed Description Text (96):

The user profile database 711 maintains a profile for each user containing information about which products the user has shown an interest, for example by requesting notification about software updates for specific products, or about new software products. This information is then used to deliver notifications about new updates available for these products to the user, for example by email, or other electronic communications mechanisms. This optional feature of the service provider computer 102 further enhances the value of the service to the user, ensuring timely notification of the availability of software updates and new software products.

Detailed Description Text (97):

In this regard, one alternate embodiment of the present invention is the use of email to notify users about new software update information, and new software products for which the user has expressed an interest. Specifically, when a new software update or software product is available, the service provider computer 102 sends an email to those users who have requested notification by email. The email contains information about the software update, and may include the record from the update table 807 about the software update, including the URL data 823 used to access the software update files. The client application 104 would then read the update information, and verify that the software update is indeed applicable to the client computer 101, and that the client computer 101 satisfies any conditions for installation. If the software updates are approved by the user, the client application 104 downloads the software update, verifies its integrity, and installs the software update directly, without having to login 201 to the service provider computer 102, and analyze 204 the software products installed on the client computer 101. In the case of notifications about new software products in which the user had expressed interest, the client application 104 would verify that the user is still interested in the software product and proceed to purchase, download and install it.

Detailed Description Text (98):

As a further enhancement of the e-mail notification embodiment, the email sent by the service provider computer 102 includes a specification of conditions a client computer 101 must satisfy for the software update or software product to be installed. This information is essentially the same as that used by the client application 104 to determine the relevant software updates for the client computer 101. For example, this information includes, for a software update, the older versions of the software product to which it is applicable. This additional information in the email notification is used by the client application 104, for example, to ensure that the software update is used only once by the user, and can be repeatedly applied.

Detailed Description Text (99):

The user profile database 711 generally stores information descriptive of each user. This information may include the user ID, password, digital signature, credit card numbers and the like, for use by the security 701, communications 703, and payment 705 modules. FIG. 14 specifies one exemplary schema of the user profile database 711. In a user table 1400, each user is identified by user ID 1401, name 1403, email address 1405, the start date 1407 of their subscription to the service, the end or termination date 1409 of the subscription, credit card information 1411 such as number, issuer and expiration date, a user selected password 1413, and a

public key 1415 or other authentication token. As illustrated in FIG. 3, the user has the option 309 of requesting notification by email of such software updates. The user table 1400 thus also includes a flag 1416 indicating whether the user so desires to be notified by email. The user table 1400 is keyed by the user ID 1401 to a notification table 1417 that associates the user with selected product names 1419 and their current version 1421. When a software vendor or the service provider updates the update database 709 with information for a new software update, the notification table 1417 may be scanned to identify those users by user ID 1401 to notify about the update. The email flag 1416 for a user is checked, and if true, the user's email address 1405 is obtained from the user table 1400 and the user notified by email with information identifying the new software update.

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L7: Entry 18 of 19

File: USPT

Sep 28, 1999

DOCUMENT-IDENTIFIER: US 5960167 A
TITLE: Printer configuration system

Application Filing Date (1):
19971204

Detailed Description Text (3):

Referring now to the drawings and in particular to FIG. 1, an exemplary multimedia device information system or network 2 including work station 4 enables users to communicate in a transparent and device independent manner. Multimedia system 2 can be implemented using a variety of hardware platforms and includes devices for input including scanner or Digital Copier 5, keyboard 6, pointing device or mouse 7, microphone 8, and video camera 9. The system further has devices for output including display terminal 10, printer 11, and speakers 12. Input/output (I/O) devices include facsimile 13, file server 14, and telephone 15. Server 14 is configured central to or remote from work station 4 with public, shared and/or private data storage that is differentiated by user access rights. The server 14 includes relational database system 17, network administration system 18, mail system 19 (e.g. email, voice mail) and data storage and retrieval system 20, and can be physically configured using optical drives, hard drives, floppy drives and/or tape drives. The relational database system 17 provides systems with fast query and retrieval of data.

Detailed Description Text (10):

(5) The auto install utility creates Novell Distributed Print Service ("NDPS" is abbreviation used by Novell in referring to a network printing control package) objects in the PSM. In particular, if a PSM exists, a new printer agent (e.g. "XPRINT.sub.-- <SAP-ID.sub.-- PA") will be added. It should appear that an "agent" functions cooperatively with the Novell service referred to as the SRS for making information regarding components on a Netware based network system available to clients accessing such system. If a PSM does not exist, then the same will be created in conjunction with a printer agent. The generated printer agent serves as both the agent seen by a client as well as the destination to which jobs are submitted. Preferably, the agent is populated with PDS exec and PH exec OID values. In practice, the printer agent is "downed" and brought back up. Upon bringing the printer agent up, the PDS and PH are functional. Additionally, the driver of the printer is set in the printer agent and automatic download of drivers is enabled.

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L7: Entry 12 of 19

File: USPT

Apr 1, 2003

DOCUMENT-IDENTIFIER: US 6542892 B1

TITLE: Configuring a client for a printer using electronic mail

Abstract Text (1):

A printer driver is installed on a client computer. The client requests the driver from a print server. The print server identifies a printer served by the print server. The print server retrieves a driver for the printer and a description of the printer's capabilities. The driver and the description are packaged into an electronic mail (e-mail) message and sent to the client. Software installed on the client unpackages the driver and the description from the e-mail and installs the driver on the client. The software also creates a port on the client and attaches the port to the printer driver.

Application Filing Date (1):19990407Brief Summary Text (5):

One method used by the prior art to print through a firewall is to attach the print job to an electronic mail (e-mail) message. The e-mail message and the attached print job are then sent through the firewall. The print job is then detached from the e-mail message and printed.

Brief Summary Text (6):

One problem with using the e-mail method is that the print client often does not know anything about the printer to which the job will be sent. In addition, the client has no means of readily discovering information about the printer. Thus, the client cannot easily determine the capabilities of the printer or which driver should be used for the printer. Additionally, even if the client could determine the appropriate driver, the client may be in a remote location without access to the correct driver for the printer.

Brief Summary Text (8):

According to principles of the present invention, a printer driver is installed on a client computer. The client requests the driver from a print server. The print server identifies a printer served by the print server. The print server retrieves a driver for the printer and a description of the printer's capabilities. The driver and the description are packaged into an electronic mail (e-mail) message and sent to the client. Software installed on the client unpackages the driver and the description from the e-mail and installs the driver on the client. The software also creates a port on the client and attaches the port to the printer driver.

Brief Summary Text (10):

A printer may be setup on the client machine by simply entering the destination e-mail address of the printer in the client software. A series of e-mail messages are traded between the print client software and the print server, which automatically sets up the printer on the client machine. At no point does the user need to know anything about the printer except its e-mail address.

Detailed Description Text (2):

FIG. 1 illustrates a system 2 for using the electronic mail (e-mail) to transport a

print driver to a client 4. Client 4 is a computer or other device that uses printers for print jobs. Client software 6 is installed on client 4. Client software 6 is responsible for printer configuration, printer setup, and print utilities. Port monitor 8 is also installed on client 6. Port monitor 8 intercepts print jobs from client 6 and packages them in an electronic mail (e-mail) message then sends them to a print server 10. Print server 10 may be separated from client 4 by firewall 11. Although the present invention solves some of the difficulties created by firewall 11, print server 10 and client 4 need not be separated by firewall 11 to practice the present invention. System 2 may be connected by an intranet or an internet.

Detailed Description Text (4):

Print server 10 communicates with port monitor 8 by exchanging e-mail messages. If necessary or desirable, e-mail messages sent to port monitor 8 first pass through an e-mail server 14. From e-mail server 14, the e-mail messages are passed to client 6 and then to port monitor 8.

Detailed Description Text (7):

A driver server auto-update mechanism 24 is responsible for communicating with a printer manufacturer's server 26 which contains the latest drivers for printer 12. Mechanism 24 updates driver server 18 automatically with the latest drivers available from the manufacturer. Optionally, mechanism 24 may also receive e-mail notifications from the printer manufacturer that allow mechanism 24 to retrieve the latest drivers.

Detailed Description Text (8):

FIG. 2 illustrates how the system components act together to install a driver 22 on client 4 using e-mail. First, a driver is requested. The driver may be requested by the client or someone else on the client's behalf. Alternatively, the request step may be omitted, such as in the case of an automatic driver installation to a known user.

Detailed Description Text (9):

In one embodiment, the driver is requested by a user of client 4 running client software 6 and selecting "Printer Installation". The user is then prompted for an e-mail address of printer 12. Client software 6 then sends 30 an e-mail to the print server 10 asking it for a description of the capabilities of printer 10 and a driver file 22. The e-mail contains information about the operating system and preferences of client 4. Optionally, the e-mail is encrypted and digitally signed.

Detailed Description Text (10):

Print server 10 identifies 32 the sender of the e-mail, checks the digital signature and decrypts the e-mail. The sender is checked 34 against a pass list 20 either on the print server 10 or against a list 20 on the pass-list server 16. If the sender is not an allowed user, the e-mail is discarded. Optionally, print server 10 sends 36 a negation reply e-mail to the user. Comparing the sender of the request e-mail to a pass list is an optional step and may be bypassed in systems where such security measures are unnecessary or undesirable.

Detailed Description Text (11):

If the sender is an allowed user, the print server 10 identifies 38 the printer 12 attached to it. The identity of the printer 12 may be hard-coded for some print servers. Print server 10 then retrieves 40 the proper printer driver 22 from the driver server 18. This driver 22 and the description of the capabilities of the printer 12 are packaged 42 into an e-mail and sent 44 back to client 4.

Detailed Description Text (12):

Client software 6 receives 46 the e-mail and unpackages 48 driver 22 and the description from the e-mail. Client software 6 then installs 50 driver 22 on client 4. Next, client software 6 creates 52 a printer object and a print port on client 4

and attaches 54 the print port to driver 22. Client 6 is then ready to print to printer 12.

Detailed Description Text (13):

Driver auto-update mechanism 24 runs in the background on driver server 18. Mechanism 24 communicates with printer manufacturer's server 26 directly and retrieves driver updates and new drivers. The communications with the printer manufacturer takes place with e-mail. Auto-update mechanism 24 may be configured to poll manufacturer's server 26 or register itself with the manufacturer to receive e-mail updates automatically. When auto-update mechanism 24 receives a new driver 22, it sets it up in either a database or a known directory structure format. If it is a new driver, an entry is made in its internal mapping list that correlates printer models to the drivers.